

twelve months from the commencement of pregnancy, the embryo having probably perished as early as the end of the fourth month. Independently of the interest attaching to the specimen as an example of protracted retention of blighted ovum, Dr. West thought the case instructive, as being one in which both patient and doctor had been right and wrong at the same time; the former having to the last persisted in the belief that she was not only pregnant, but normally so; the latter having told the patient, when consulted by her after the expiration of her nine months, that she was not only mistaken, but altogether so. The ultimate expulsion of the mass exhibited, however, explained everything.—*Med. Times and Gaz.*, Feb. 15, 1862.

53. *Puerperal Fever in the new Lying-in Hospital at Munich.*—This Hospital was opened in 1859, and puerperal fever soon became endemic there, and every year since it has been visited by this terrible scourge. The most intense epidemic was that of last year, and a correspondent of the *Medical Times and Gaz.* (Feb. 8, 1862) gives some of the more important observations which were made at that time by Dr. HECKER, Professor of Clinical Midwifery, and Dr. BUNL, Professor of Pathological Anatomy.

During the summer and autumn of 1859, the sanitary condition of the women in the Lying-in Institution was, on the whole, satisfactory. Certain premonitory symptoms of an epidemic of puerperal fever having been observed towards the close of the year, the first bad cases of that disease occurred in the middle of January, 1860. The epidemic lasted from that time till July. There were 663 births in the six months, and 80 women were affected with the fever, that is, twelve per cent. Of these 80 there died 33, that is, 41 per cent. of those affected, and 5 per cent of the whole number. Simultaneously with the puerperal fever a very dangerous affection of newly born infants was observed, which was quite analogous to the disease from which the mothers suffered. Amongst the 33 children of the 33 women who died, 20 also died within the first week, and evidently under the influence of the epidemic. Of 49 children borne by 49 women who recovered, 12 died from the same cause. The disease of infants showed the following forms:—

1. Acute dissolution of the blood; of which 13 cases were observed. The children collapsed soon after birth in an extraordinary manner; the skin assumed a dirty yellow colour; food was refused, the respiration became accelerated, and screams were heard as in acute hydrocephalus. Death generally ensued within 24 hours, and the post-mortem examinations which were made in every case with the utmost care, did not show any local disease; only the blood appeared smeary, and there was a striking putrefaction of all organs, which are prone to this process, and which had evidently commenced during life; this was observed even if the cavities of the body were opened soon after death. Cadaveric spots were spread over the whole surface of the skin. This septic condition generally began immediately after birth; but in one case Professor Hecker satisfied himself that it had already commenced in utero. This was the case of a woman in her second pregnancy, and who fell ill during parturition with violent vomiting of green matter; she then gave birth to a dead child, and died herself on the third day after delivery. The child was a well developed girl, of 6½ pounds, and had died during parturition without any visible cause, as the umbilical cord had not been constricted, and the second period of parturition only lasted an hour and a-half; from which it was fairly concluded, that the illness of the mother, which had come on during parturition, had caused the sudden destruction of the life of the infant. If in such cases of dissolution of the blood, a local disease occurs, this affects the respiratory organs; the autopsy showing signs of lobular pneumonia having commenced. In two cases there was extensive hepatization of both lungs, and putrid exudation.

The second class of cases consisted of septic inflammation of the umbilical vessels, with its sequelæ. Three cases of arteritis umbilicalis were observed, one of phlebitis, and four of more or less diffuse peritonitis, with discoloured exudation matter. In these cases there were also morbid appearances in the skin, viz., erythema, which in one case extended over the whole surface of the body

with a rapidly fatal result; and erysipelas migrans with strong induration of the affected parts, and which appeared several times in the face.

A third class of cases was characterized by atrophy. This form of the disease was observed in four cases; the subjects being originally strong children, and no cause being apparent but the miasma.

Regarding etiology, it appeared that the stay of the pregnant women in the Lying-in Hospital disposed them to puerperal fever. The majority of patients fell ill within the first week of their stay in the Institution. Of those who entered it during parturition, 13.8 per cent. fell ill, while of those who had been in it from 1 to 4 days before delivery, 29 per cent. became affected. If, however, the pregnant women remained longer in the Hospital, they appeared to become callous to the contagion. In the wards for poor patients the disease was much more frequent than in those for private cases. It would seem possible that the clinical instruction of the students in the examination of pregnant and parturient women might be the cause of the affection, and M. Semmelweiss even now holds the opinion that the origin of the disease is entirely due to infection with cadaveric poison. But several objections seem to be fatal to this supposition. During the epidemic I am speaking of, there was no occasion for such an infection of the pregnant women taking place. The autopsies were never made in the Lying-in Institution itself, but in the anatomical theatre; and neither the students nor those who had the women under their care, ever touched the dead bodies. Besides, the hands were always well washed before an examination was made. Moreover, it happened that infants fell ill and died of puerperal sepsis, whose mothers made a good recovery. This fact is not consonant with the assumption of an infection by cadaveric poison. It would be sophistry to say that, although the mother seemed to be well, she was nevertheless infected; for where there is no morbid symptom, we are not justified in assuming the existence of a complaint. Another objection against the theory of M. Semmelweiss would be, that the women fell ill in sets, and that sometimes not a single case of fever occurred during a fortnight. It has often been stated that there was much more disposition to contract the fever in women, who had had a protracted labour; and that primiparae were, therefore, more exposed to danger than such as had already borne children before. The observations made here on this point during the last epidemic prove that many fell ill whose labour had been very quick, and that the duration of the labour had no relation to subsequent illness. I will also mention that of 80 cases in which fever occurred, birth was accomplished by Nature in 75 cases, while only in five instances operations were necessary.

The researches of Professor Buhl concerning the pathological anatomy of this disease are of importance. Proceeding from the fact that the inner surface of the uterus is always affected, he looks upon this as the starting point of all other morbid changes. The disease spreads from the place mentioned along three different roads, viz., the mucous membrane of the tubes, the bloodvessels, and the lymphatic vessels. In conformity with this circumstance there are three principal forms of puerperal fever. The first is puerperal peritonitis without pyæmia; the irritant matter produced in the uterus spreads through the canal of one or both tubes, and through their orifice into the peritoneal cavity; their tissue becomes swollen, loosened, and injected, and the canal is filled with thick pus. There is either unilateral inflammation of the serous covering of the ovary and the womb, or general peritonitis. This form is most frequent if there be no epidemic; but during such an one it is very rare, and only occurs in connection with one of the other forms. Not a single case of this kind occurred during the epidemic I have described. This form is not nearly so dangerous as the two others, recovery being not uncommon; and if death results, this is generally the consequence of general peritonitis.

In the second form, which is puerperal pyæmia without peritonitis, the inner surface of the womb constitutes, as it were, one large wound, and the affection is traumatic. There are symptoms of absorption of putrid matter by the veins, and we find not only normal coagula, but also thrombi containing pus, and prone to putrefaction, especially in the veins at the insertion of the placenta; also in the veins of the plexus pampiniformis, the spermatic veins, the vena cava inferior, the renal or crural vein and the cavities of the heart. There is often em-

bolic inflammation, followed by suppuration and gangrene of the lungs, the spleen (which is always enlarged), the kidneys, the eyes, the brain, and other organs. The characteristic feature of this form is that, unless a complication should be present, which is rarely the case, there is no peritonitis. It is more dangerous than simple peritonitis, and may occur sporadically; but it is more frequently epidemic, although neither so common nor so intense as the third form. It is not unfrequently an indication that the violence of the epidemic is on the decrease. For while pyæmia without peritonitis scarcely ever ends in death before the ninth day, but is generally protracted over two, three, and more weeks, the third form generally proves fatal within the first week after parturition, and in some cases even the very day after delivery, or a few hours after it. This second form was, in the epidemic I have described above, only observed four times.

The third form is entirely different from the second and the first. There is always peritonitis, but no thrombosis of the veins, which are merely filled with thin, discoloured blood. The disease spreads by absorption through the lymphatic vessels and the connective tissue which envelopes them and the blood-vessels, and where yellow coagula, pus and putrid matter, are accumulated. Besides this local creeping of the disease, there is also general infection by absorption of poisonous matter in the blood, either immediately from the womb or from the infected lymph. This form may, therefore, be called puerperal pyæmia with peritonitis, or pyæmia with lymphangitis. It is the most malignant form regarding intensity, rapidity of course, and fatality, and it is also the most frequent in epidemics of puerperal fever. Of thirty-nine fatal cases in the last epidemic, thirty-five belonged to this form. If death ensued very rapidly, there were only general septic appearances in the body; and local changes only became apparent if the disease was of a somewhat longer duration.

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54. *Pathological Anatomy of Puerperal Fever.*—Professor BUHL, of Munich, having examined the bodies of fifty women who died of puerperal fever, states that a constant and characteristic appearance is a pappy, red or dark brown or grayish-black mass lining the inner wall of the uterus, giving forth sometimes a gangrenous and sometimes a putrefactive smell. It is this matter which supplies the poisonous infection of puerperal fever; but as to the cause of the production of the fever differences of opinion prevail; some regarding it as the consequence of the immediate passage of poisonous matter into the wound, while others think that a preliminary poisoning of the blood by miasmata takes place, the corrupted mass being only a secondary result. Anatomically, we may distinguish two forms of puerperal fever—puerperal pyæmia and puerperal peritonitis—forms which may be clinically distinguished, as it is of importance in prognosis that they should be so.

Puerperal pyæmia does not usually prove fatal before the ninth day, and frequently not until after the third week. It is chiefly met with where the disease does not put on an epidemic form, the veins being the channel of infection; coagula, accompanied by suppuration, being found in the veins of the walls of the uterus, in a pampiniform plexus or in a spermatic vein. In no instance did the author ever find both spermatic veins obstructed, and in only one case was the entire vena cava inferior filled with adherent coagula. These coagula and their subsequent caseous metamorphosis are quite sufficient to establish the existence of puerperal pyæmia, the so-called metastatic abscesses being seldom met with. Edema of the lungs and ecchymosis of the pleura were frequently met with by the author.

The puerperal peritonitis was more frequent, more violent, and more rapidly fatal than the puerperal pyæmia, inasmuch as death sometimes occurred within two days after delivery, and in but few cases was delayed to the third week. Of the 32 cases of this variety only 2 were chronic, proving fatal in the course of six or eight weeks. In all the cases purulent exudation was found, in 18 instances occupying the tubes, and in 14 the subserous tissue of the uterus. The two conditions were found combined in only 4 instances, and a plugged condition of the veins was observed only in 5 instances. Of the 18 instances in which puerperal pyæmia occurred, in only 2 was there pus in the tubes, and in only 1 subserous effusion of pus; so that of 20 cases of tubal suppuration, in 18 peritonitis